

REMARKS

Reconsideration of this application, as presently amended, is respectfully requested.

Claims 1-23 are pending in this application. Claims 1-23 stand rejected.

Claim Rejections - 35 U.S.C. §103

Claims 1-6 are rejected under 35 U.S.C. §103(a) as being unpatentable over **Bick** (US Patent Application 2002/0049070) and further in view of **Murphy** (EP 1054550 A2).

Claims 7-13 are rejected under 35 U.S.C. §103(a) as being unpatentable over **Bick** (US Patent Application 2002/0049070) and further in view of **Murphy** (EP 1054550 A2).

Claims 14-15 are rejected under 35 U.S.C. §103(a) as being unpatentable over **Bick** (US Patent Application 2002/0049070) and further in view of **Murphy** (EP 1054550 A2).

Claims 16-19 are rejected under 35 U.S.C. §103(a) as being unpatentable over **Bick** (US Patent Application 2002/0049070) and further in view of **Murphy** (EP 1054550 A2).

Claims 20-23 are rejected under 35 U.S.C. §103(a) as being unpatentable over **Bick** (US Patent Application 2002/0049070) and further in view of **Murphy** (EP 1054550 A2).

As will be discussed in detail below, it is respectfully submitted that each of independent claims 1, 3, 7, 14, 16 and 20 patentably distinguish over the combination of **Bick** and **Murphy**.

Bick discloses a keypad 7 for a mobile telephone handset, the keypad 7 including a keymat 17 beneath which are disposed capacitive sensing plates 20, 21. The keypad 7 may be used in a conventional manner to enter alphanumeric data by pressing keys 18 or as a touch pad by sliding a finger over the surface of the keymat 17. More specifically, as shown in Figs. 3 and

4, the keypad 7 includes a silicone rubber keymat 17 having a plurality of keys 18. A capacitive sensor 19 lies beneath the keymat 17. The capacitive sensor 19 includes first and second sensing plates 20, 21, which sensing plates 20, 21 are formed of striped indium tin oxide (ITO) electrodes 22, 24, respectively, that run in orthogonal directions to each other.

The keypad 7 further includes metal dome switches 32 mounted on a flexible substrate 31. The metal dome switches 32 lie beneath respective keys 18. First and second metal contacts 33a, 33b are mounted on the substrate 31 beneath each metal dome switch 32. The second metal contact 33b is concentric with the first metal contact 33a. Further, the metal dome switches 32 sit on respective second metal contacts 33b. A dome adhesive gasket 30 is provided above the substrate and includes nodules 34 on an underside thereof.

When the keypad 7 is operating as a *conventional keypad*, a user depresses a key 18 and force is transmitted through the underlying layers to depress a metal dome switch 32. Deformation of the metal dome switch 32 completes electrical connection between the first and second contacts 33a, 33b causing a signal to be generated in a well-known manner. See paragraph [0026].

When the keypad 7 is used as a *touch-sensitive pointing device*, a user lightly touches the keymat 17 without exerting enough force to depress any of the keys 18. The user's finger modifies the mutual capacitance between the first and second electrodes 22, 24, which is detected by a sensor interface 9 in a well-known manner so as to determine the coordinate of the user's finger, which is fed to a controller 15.

The **Murphy** reference discloses a portable telephone handset that incorporates a handwriting input surface to permit a user to enter numeric digits of a telephone number to be dialled by tracing each number with a finger or stylus on the handwriting input surface.

As shown in Fig. 1, the telephone handset includes, as an input device, an LCD touch screen 31 in place of a conventional push-button keypad. The LCD touch screen 31 presents to the user displayed “keys” 32 to permit the user to enter dialled number or operate other telephone functions. To “dial” a telephone number, the user touches or taps the surface of the LCD touch screen 31. See paragraph [0026].

The input device also includes a handwriting input surface 35 (see Fig. 1). The handwriting input surface operates in conjunction with handwriting recognition software stored in a main body 13 of the phone. As an alternative to touching the LCD screen 31 to enter a telephone number, the user may enter a telephone number, digit by digit, by writing each digit with a finger or stylus on the handwriting input surface 35.

Claims 1-2

With respect to independent claim 1, and claim 2 which depends therefrom, it is submitted that neither **Bick** nor **Murphy** disclose or suggest the “*electrostatic capacity sensing pad provided between the key mat and the board, the electrostatic capacity sensing pad having through holes corresponding to the respective projections and in which the projections corresponding to the through holes are inserted*”, as recited in independent claim 1.

More specifically, the Examiner asserts that **Bick** discloses the claimed “electrostatic capacity sensing pad”. However, the capacitive sensor 19 disclosed by **Bick** does not include through holes in which projections of key buttons are inserted. Therefore, the **Bick** device is structurally different from the invention recited in claim 1.

It is noted that, as set forth in the Manual of Patent Examining Procedure (MPEP) §2143.03 “To establish *prima facie* obviousness of a claimed invention, ***all the claim limitations must be taught or suggested by the prior art.***” *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974).

In view of the fact that neither **Bick** nor **Murphy** disclose or suggest the claimed “*electrostatic capacity sensing pad provided between the key mat and the board, ...having through holes corresponding to the respective projections and in which the projections corresponding to the through holes are inserted*”, it is submitted that the rejection under §103 is improper and should be withdrawn.

Claims 3-6

With respect to independent claim 3, and dependent claims 4-6 which depend therefrom, first, neither **Bick** nor **Murphy** disclose or suggest the “*electrostatic capacity sensing pad*” for the same reasons discussed above with respect to claim 1.

Second, neither **Bick** nor **Murphy** disclose any of the following claimed features:

“*a memory for storing predetermined item names as table elements corresponding to respective small regions provided within a pad region of the electrostatic capacity sensing pad*”;

“an item name selector for selecting an item name corresponding to a small region in which a representative point of the touched region is situated”; and

“a data value determiner for determining a data value of the selected item name according to a size of the touched region.”

The Examiner relies on the **Bick** reference to disclose the above features recited in independent claim 3. The Examiner asserts that sections [0023] and [0027] of **Bick** disclose the above features. However, although **Bick** discloses a memory 16, **Bick** is completely silent with respect to what the memory 16 stores, and does not disclose or suggest that the memory stores *“predetermined item names as table elements corresponding to respective small regions provided within a pad region of the electrostatic capacity sensing pad.”*

Further, in section [0027], **Bick** discloses that a “user’s finger modifies the mutual capacitance between the first and second electrodes 22a, 24a, which is detected by sensor interface 9 in a well-known manner so as to determine the coordinate of the user’s finger, which is fed to the controller 15. The controller runs suitable touchpad driver software.”

However, **Bick** is silent with respect to *“an item name selector for selecting an item name”* Further, **Bick** is completely silent with respect to performing a determination with respect to a size of a touched region. More particularly, **Bick** does not disclose or suggest *“a data value determiner for determining a data value of the selected item name according to a size of the touched region.”*

In view of the above remarks, it is respectfully submitted that the rejection of claims 3-6 under §103 is improper and should be withdrawn.

Claim 7-13

With respect to independent claim 7, and claims 8-13 which depend therefrom, first, it is submitted that neither **Bick** nor **Murphy** disclose or suggest the “*electrostatic capacity sensing pad*” recited in claim 7 for the same reasons discussed above with respect to claim 1.

Further, neither **Bick** nor **Murphy** disclose or suggest “*a locus generator for generating a locus from a set of representative points of each of the touched regions stored in the memory*”; and “*a breakpoint detector for detecting a breakpoint of the locus according to a feature of the touched region*”.

The Examiner asserts that **Bick** discloses the “breakpoint detector” in sections [0007]-[0009] and [0027] (see Office Action, page 11, lines 1-3). However, none of the sections of **Bick** cited by the Examiner relate to detecting a breakpoint of a locus, and particularly, detecting a breakpoint of a locus according to a touch direction determined by a direction determiner. The cited sections, at best, teach that a coordinate of a user’s finger is detected (section [0027]).

In view of the above remarks, it is respectfully submitted that the rejection of claims 7-13 under §103 is improper and should be withdrawn.

Claims 14-15

With respect to independent claim 14, and claim 15 which depends therefrom, first, neither **Bick** nor **Murphy** disclose or suggest the “*electrostatic capacity sensing pad*” recited in claim 14 for the same reasons discussed above with respect to claim 1.

Moreover, neither **Bick** nor **Murphy** disclose or suggest “*a direction determiner for determining a touch direction according to a figure of the touched region detected by the electrostatic capacity sensing pad*”; and “*a breakpoint detector for detecting a breakpoint of the locus according to the touch direction determined by the direction determiner*”.

The Examiner asserts that **Bick** discloses the “breakpoint detector” in sections [0007]-[0009] and [0027] (see Office Action, page 11, lines 1-3). However, none of the sections of **Bick** cited by the Examiner relate to detecting a breakpoint of a locus, and particularly, detecting a breakpoint of a locus according to a touch direction determined by a direction determiner. The cited sections, at best, teach that a coordinate of a user’s finger is detected (section [0027]).

Further, the Examiner apparently considers that **Murphy** teaches the “*direction determiner for determining a touch direction according to a figure of the touched region detected by the electrostatic capacity sensing pad*.”

However, at best, **Murphy** generally teaches that the handwriting input device 35 includes software that recognizes letters, numbers and symbols (see, e.g., section [0028]), but is silent as to how the letters, numbers and symbols are recognized. Further, **Murphy** does not disclose that the handwriting input device 35 includes an electrostatic capacity sensing pad.

In view of the above remarks, it is respectfully submitted the rejection of claims 14-15 under §103 is improper and should be withdrawn.

Claims 16-19

With respect to independent claim 16, and claims 17-19 which depend therefrom, first, neither **Bick** nor **Murphy** disclose or suggest the “*electrostatic capacity sensing pad*” recited in independent claim 16 for the same reasons discussed above with respect to claim 1.

Further, neither **Bick** nor **Murphy** disclose or suggest “*a controller for selecting a function corresponding to a feature of the touched region detected by the electrostatic capacity sensing pad and executing the selected function*” as recited in claim 16.

Still further, neither **Bick** nor **Murphy** disclose or suggest “*wherein the controller selects a function corresponded to a size of the touched region detected by the electrostatic capacity sensing pad and executing the selected function*”, as recited in claim 17.

None of the references disclose detecting a size of the touched region or selecting a function corresponding to the size of the touched region.

In view of the above remarks, it is respectfully submitted the rejection of claims 16-19 under §103 is improper and should be withdrawn.

Claims 20-23

With respect to independent claim 20, and claims 21-23 which depend therefrom, first, neither **Bick** nor **Murphy** disclose or suggest the “*electrostatic capacity sensing pad*” recited in claim 20 for the same reasons discussed above with respect to claim 1.

Further, neither **Bick** nor **Murphy** disclose or suggest “*a memory for storing predetermined functions corresponding to respective small regions provided within a pad region of the electrostatic capacity sensing pad*”, as recited in claim 20.

The Examiner apparently asserts that **Bick** discloses this feature (see Office Action, page 16, lines 17-19). However, the sections cited by the Examiner do not disclose the above-noted claimed feature. **Bick** is completely silent regarding a memory that stores predetermined functions corresponding to respective small regions provided within a pad region of an electrostatic capacity sensing pad.

Further, neither **Bick** nor **Murphy** disclose “*a function selector for selecting a function corresponding to a small region in which a representative point of the touched region is situated*”; and “*a function controller for controlling the selected function according to a feature of the touched region detected by the electrostatic capacity sensing pad*”, as recited in claim 20.

Still further, neither **Bick** nor **Murphy** disclose or suggest “*wherein the function controller controls the selected function according to a size of the touched region detected by the electrostatic capacity sensing pad*”, as recited in claim 21.

None of the references disclose detecting a size of the touched region or selecting a function corresponding to the size of the touched region.

In view of the above remarks, it is respectfully submitted the rejection of claims 20-23 under §103 is improper and should be withdrawn.

Application No. 10/529,399
Art Unit: 2618

Amendment under 37 C.F.R. §1.111
Attorney Docket No.: 052279

CONCLUSION

In view of the foregoing amendments and accompanying remarks, it is submitted that all pending claims are in condition for allowance. A prompt and favorable reconsideration of the rejection and an indication of allowability of all pending claims are earnestly solicited.

If the Examiner believes that there are issues remaining to be resolved in this application, the Examiner is invited to contact the undersigned attorney at the telephone number indicated below to arrange for an interview to expedite and complete prosecution of this case.

If this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. The fees for such an extension or any other fees that may be due with respect to this paper may be charged to Deposit Account No. 50-2866.

Respectfully submitted,

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